



TITLE:

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CITATION:

OSAKI, Masakazu. The Influence of Sedentism on Sharing among the Central Kalahari Hunter-Gatherers. African study monographs. Supplementary issue 1990, 12: 59-87

ISSUE DATE:

1990-03

URL:

<https://doi.org/10.14989/68353>

RIGHT:

THE INFLUENCE OF SEDENTISM ON SHARING AMONG THE CENTRAL KALAHARI HUNTER-GATHERERS

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ABSTRACT This paper deals with recent changes in the life and society of the Central Kalahari San, traditional hunter-gatherers living in the ≠Kade area of the Central Kalahari Game Reserve.

The sedentarization program of the Botswana government has had a profound influence on the subsistence of the Central Kalahari San. Gathering, which formerly supplied the San with 80% of the caloric value in their diet, has become less important, and their hunting methods have completely changed. Instead of traditional bow-and-arrow hunting, they were using horses for hunting in 1982. Equestrian hunting (hunting on horseback) is so effective that a great amount of meat is acquired in one hunting trip. They have begun to sell some of this meat to visitors to get cash. Inequality in the first distribution of meat has developed. The horse owners receive approximately half of the meat, while other participants receive only a small amount. Such inequality did not exist, when they led a nomadic life.

Equality remains unchanged in the sharing of meat which is stored by horse owners. Although the principle of equality remains influential, the flow of the meat is one-way, always from the minority of the horse owners to the majority of others. Such a one-way flow of distribution did not exist in their traditional society.

Besides equestrian hunting, dog hunting (hunting with spear or club, with the help of dogs) became popular in 1987. Until recently, hunting with dogs was a subsidiary method. In contrast to equestrian hunting, everybody can participate in hunting with dogs on equal terms. The meat which is acquired by hunting with dogs is distributed equally among the participants, then the participants share the meat with non-participants within the same camp. The sudden spread of hunting with dogs proves that their co-existence is still governed by egalitarianism. It is concluded that although sedentism has so deeply influenced their situation that a cultural change has occurred, their tradition of egalitarianism remains a fundamental part of the San society.

Key Words: Central Kalahari San; Hunter-gatherers; Sedentism; Sharing; Egalitarianism; Development.

INTRODUCTION

This paper deals with the recent changes in life and society of the Central Kalahari San, a traditional hunter-gatherer people in the ≠Kade area of the Central Kalahari Game Reserve.

Hunting and gathering peoples have played an important role in human history. They represent the original condition of humankind, the system of production that prevailed during virtually 99% of human history (Lee & DeVore, 1968). The early work (1960s–1970s) on hunter-gatherers focused mainly on their traditional way of life, and clarified the problem of group structure and the nature of ecological adaptations.

Acculturation in the San society is nothing new. Excavations amplify evidence from southern Africa (Elphick, 1977; Schrire, 1980) by showing that hunter-gatherers and agro-pastoralists have been enmeshed in networks of interaction and exchange for 1,000 years longer than was previously suspected (Denbow, 1984). However, the recent changes differ entirely from the former in scale and speed. The San of today, who are forced to change their life-style in order to adapt to great changes in living conditions, are finding that they can no longer subsist in the traditional way.

Recent researchers have tended to examine the situation of the contemporary San (e.g. Guenther, 1979, 1986; Leacock, 1982; Osaki, 1984; Bieseke et al., 1989). Guenther (1975, 1976, 1979, 1986) was the first to propose studies focusing on the social and cultural change among the San. He has criticized the fact that almost all research on the San (Marshall, 1957, 1960, 1961, 1969; Lee, 1968, 1969, 1976; Tanaka, 1969, 1976) has assumed a static orientation, seeing in the San a living pre-neolithic hunter-gatherer who could provide data on ecology and social organization (Guenther, 1979). Leacock & Lee (1982) also note that it is important to make two caveats. First, contemporary or recent foragers are not living fossils, their history and their distance from humanity's ancestors are as long as those of all other human groups. Second, foraging people are not isolates, they are living in the twentieth century and are molded in part by that context.

Guenther tries to show the San's adaptation to new ecological, economic, social, and political conditions. However, he fails to describe the diachronic ally changing features. The Nharo San have experienced the highest degree of socio-cultural change as a result of their contact with the European farmers. It appears that they have been undergoing cultural change for two or three generations (Guenther, 1979). At the time of Guenther's research (1968–1970), the vast majority of the Nharo lived on European-owned farms, and only a small number of them retained their old hunting and foraging way of life (Guenther, 1986). Therefore, Guenther chose to describe and analyze socio-cultural change and the incorporation of remnants of their traditional life into their acculturated life.

Bieseke et al. (1989) have examined the past and present socio-economic situation of the San. They presented case studies of five communities, which ranged from the full-time hunting and gathering San to the settled agro-pastoral San. They arranged these five along a continuum from isolated hunter-gatherers through settlement scheme to genuine self-motivated developing communities, and provide data on the range of adaptations. Unfortunately, points on this "continuum" are only approximate, since each of the locations represents a very different, and very special set of circumstances (Bieseke et al., 1989).

The purposes of this study are as follows: (1) to analyze the diachronic features of social change among the Central Kalahari San, (2) to describe how the central elements of sharing and egalitarianism were influenced by the development policy of the Botswana government.

STUDY AREA AND ITS HISTORY

I. Study Area and the Central Kalahari San

This study concerns the San who live in the #Kade area in the Central Kalahari Game Reserve (CKGR), which is situated in the central part of the Republic of Botswana (Fig. 1). This paper is based on my research carried out at #Kade area for five months (from August, 1982 to February, 1983). I will also refer to the changes that occurred after my research period, which are reported in Tanaka (1987), Sugawara (1988) and Ikeya (1989).

The G/wi and G//na San, who are the subject of this paper, live in a large area in

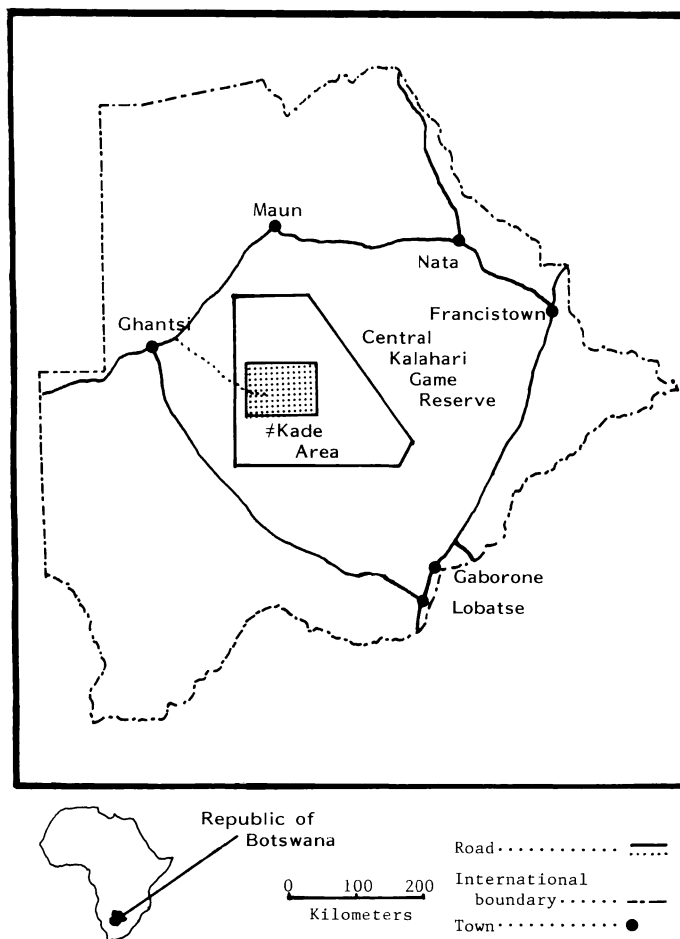


Fig. 1. Research area.

the center of the CKGR. Tanaka (1980) encountered a total of 528 nomadic San subsisting by hunting and gathering in the period of his research (September, 1967–March, 1968 and May, 1971–August, 1972).

The G/wi and G//ana San speak very similar languages, and have no trouble understanding each other (Tanaka, 1980). Especially in the ≠Kade settlement, the region of my investigation, both groups mixed and lived together and often intermarried. Tanaka (1980) noted that it is impossible to distinguish clearly between the G/wi and the G//ana San and to observe their respective societies in isolation. Following Tanaka, I treat them as a single social group, the Central Kalahari San.

Before the 1960's, the ≠Kade area was isolated from the neighboring peoples. It is the most arid human habitat in the Kalahari Desert. Annual rainfall ranges between 170 and 700 mm; the average figure for the eleven-year period from 1961 to 1971 was 391.7 mm (Tanaka, 1980). Unlike the !Kung San of the Dobe area, the Central Kalahari San used to obtain more than 90% of their water supply from plants (Tanaka, 1976, 1980). In the CKGR there are no permanent bodies of water, although there are several temporary water holes. The number of days on which can be obtained water estimated from water holes varies from one year to another, but is presumed to be between 30 and 60 days (Tanaka, 1980).

In this area there was only one well, which was sunk by G. S. Silberbauer in 1964. Since the water must be pumped up from a great depth by a diesel engine, this well was utilized only by government officials (Tanaka, 1980). As the CKGR is barren and inhospitable for people whose life-style is not adapted for survival in this environment, few people dared to invade the San's territory.

Without some contact with external civilization, however, it would have been impossible even for the San to subsist by hunting and gathering wild animals and plants in the CKGR. Arrowheads, spearheads, axes, and shafts for arrows have been obtained in trade with the Bantu over a long period (Tanaka, 1980). Moreover, several people abandoned the traditional hunting-gathering way of life.

The population of the Central Kalahari San was 3,100 in 1969, 500 of whom lived at the Ghantsi area worked on the farms (Guenther, 1979). The territory of the Central Kalahari San and that of the Kgalagadi, Bantu tribe, overlapped, and there were a number of Bantu villages in the CKGR (Tanaka, 1980). The San sometimes visited relatives and friends who lived on white man's farms or in Bantu villages in the south-west of the CKGR (Tanaka, 1980).

Although generally isolated, the Central Kalahari San gained some knowledge of external culture through the Kgalagadi. In the process of the Bantu migration, the Kgalagadi moved into the heartland of the Kalahari. Some of them had contact with the San, some were even married to San women. The Kgalagadi men hunted on horseback. Techniques of equestrian hunting (spear hunting on horseback), the habits of cultivation and raising goats, donkeys and horses were introduced to the San through this contact with the Kgalagadi. Even in the 1960's, there was a small number of San who had adopted the life-style of the Kgalagadi tribe, then nomadic hunter-gatherers had the opportunity of living with the sedentary San (Tanaka, 1978).

II. A Brief History of the Development Program on the San in Botswana

Silberbauer was appointed the Bushman Survey Officer of the Bechuanaland Government in 1958, and his recommendations of the *Bushman Survey Report* (1965) played a significant role in the pre- and post-Independence policy concerning the San (Wily, 1979). Silberbauer (1965) divided the San of Botswana into more discrete economic categories: the hunter-gatherers; the Bantu-associated peoples with African patron-client relationships, found primarily in eastern Botswana and south western Ghantsi; independent villages with cash hunting and wage labor, found throughout northern Botswana; and workers on European farms in the Ghantsi District. He aimed to look into the situation of these San people, with a view to seeing how best they might be included within the national life of the future independent Bechuanaland (Silberbauer, 1965).

Ghantsi town, containing the District Government and a number of shops, lies in the heart of the farming block. The San were the only inhabitants of the Ghantsi area until about 1850 when the Tswana and Kgalagadi tribes entered this area from north and south-west respectively: the former to hunt game, the latter to settle. The first European settled Ghantsi in 1874, but he was murdered by the San in 1878. Though several of European trekkers from the Transvaal to South West Africa or Angola passed through Ghantsi, and stayed to rest for three or four months, none settled in this area until about 1880. In 1894, Cecil Rhodes sent in his agent, who managed to cajole the Tswana Chief into ceding the Ghantsi area to the British South Africa Company. In 1894, the first Boer settlers arrived and opened 37 farms, on which the present European farming area is based. About 15 years after the Boers, the first English settlers arrived, then in the 1950's there was another wave of English settlers. In early 1960's when the Protectorate's independence became imminent, a number of Europeans who disliked or felt threatened by the prospect of living under an African government sold their farms (Guenther, 1979).

Cattle were one of Botswana's most important sources of revenue, until diamond pipes were discovered and explored. The San had lost their own territory and abandoned their traditional way of life as the European farming block developed. To protect the San from livestock development of the Ghantsi farming block, Silberbauer recommended the establishment of CKGR, where the Central Kalahari San live. It was opened in 1963. He also recommended that fifteen water-holes be established in the CKGR with the objects of (1) providing drinking water for the San, who had no water except during the short rainy season, and (2) providing water for the animals. One borehole was successfully drilled at \neq Kade in the CKGR, and a grant was provided by OXFAM to drill a further five. However, the disappointing results of the geological survey of the area, together with the difficulties in finding a competent driller for such a remote area, and the emerging preoccupation of the Geological Survey Department with drought relief drilling, halted the project (Wily, 1979).

Because of drought, and the more pressing affairs of a new nation-state following independence in 1966, the already low priority of the Bushmen problem became

lower. In 1972 the Bushmen Development Committee was established, but little official action was taken until 1974, when the Bushmen Development Programme was started. In 1978, the Bushmen Development Programme was officially expanded to deal with all remote area dwellers, or poor rural citizens living outside villages estimated as the poorest 10% of the population. The narrow focus on Bushmen was officially abandoned and the program was known thereafter as the Remote Area Development Programme (RADP). The objectives of RADP can be divided into three categories: (1) social services—the extension of basic services including education, health, drinking water and the vulnerable group feed program; (2) economic—access to land, water rights and income earning opportunities for remote area dwellers; (3) political—self-reliance, social integration and awareness of rights (Ministry of Local Government and Lands, 1982).

III. Sedentarization Programme in the ≠Kade Area

In 1976, the *kgotla* (council-place or court) system, which is a local administration system in Botswana, was introduced to the ≠Kade area. The Ghantsi District Commissioner visited ≠Kade, the first major government official to visit the area since the time of Silberbauer. The Commissioner consulted the people about having a chief to resolve problems in the community. The ≠Kade people selected a man, who was then officially appointed by the Commissioner (Childers et al., 1982).

The ≠Kade area had not shared the benefit of RADP, but the well was improved in 1979. A water tank was installed, one San man was employed as a pump keeper, and diesel oil was kept in constant supply. After drinking water became continuously available, the sedentarization program of the Central Kalahari San started around the well. The RADP office was constructed, and a liaison officer of the RADP and an Arable Land Development Programme Field Assistant were stationed at the ≠Kade settlement.

In 1979, the hunting license system was introduced by the Wildlife Department. There had been no effective restrictions on hunting by the San living in the CKGR, although hunting of giraffes, lions, leopards and some conserved animals, were prohibited. In Botswana there is a Fauna Conservation Act, and one wishing to hunt must buy a license. However, there are areas with little significant agronomic or pastoral development, and with large wildlife populations. Many people living in these areas depend on hunting. Special Hunting Licenses, which permitted hunting using traditional methods, were issued to them with no charge. Every adult man in ≠Kade received a license which specified the number of each game species he was permitted to hunt a year and the species for which hunting was prohibited (giraffe, lion, leopard, cheetah, brown hyena and kori bustard; Table 1).

RADP has rapidly changed the life of the ≠Kade people in many respects. The guidance of the government has also encouraged the inflow of additional people of the Central Kalahari San from areas as far as 100 km, such as Gyom (Molapo), Metse-a-Manong and Manoatse, to allay their hunger and thirst during the dry season. As a result, their traditional lifestyle in small nomadic groups has changed to

Table 1. Animals which may be hunted on a Special Game License.

Species	Maximum number of animals to be hunted in any one season by a license holder
Wildebeest	4
Springbok	4
Ostrich	2
Impala	4
Lechwe	3
Buffalo	2
Kudu	1
Tsetsebe	1
Sitatunga	1
Gemsbok	2
Warthog	3
Eland	1
Monkey	20
Duiker	30
Baboon	Unlimited
Steenbok	30
Spotted Hyena	20
Wilddog	Unlimited
Jackal	Unlimited
Wildcat	50
Bat-eared Fox	50
Silver Fox	10
Genet	50
Caracal	10
Monitor Lizard	10
All Birds (Except conserved species)	Unlimited

Source: Ministry of Local Government and Lands (1982: 146)

a sedentary life in larger groups.

During the research period, 16 units of residence (camps) were formed at ≠Kade.⁽¹⁾ Of these, 13 camps were investigated during this study. The remaining 3 groups consisted of seasonal residents who returned to their homeland, when food and water became abundant in the rainy season (Tanaka et al., n.d.). Though people have come to live together in the vicinity of the borehole, they do not intermingle with each other, but basically maintain the same units of residence (camps) as they had before. Formerly the distances between camps were 10–20 km, but in 1982–4 were shortened to 100–500 m as they became concentrated in a small area (Tanaka, 1987).

When the Central Kalahari San lived as hunting and gathering nomads, there was a tendency for related families to belong to the same residential group; moreover, families connected by parent-child or sibling relationships sometimes formed an enduring “cluster of families” (Tanaka, 1980). Then, there were various degrees of intimacy among the “clusters of families”. Tanaka (1980) defined the group of clusters that showed a high degree of intimacy by virtue of frequency of grouping as a “group of clusters”. In the sedentary settlement, the core members of each unit of residence (camp) consist of a former “cluster of families” and “group of clusters,”

with the exception of one camp in which immigrants from the Ghantsi farming area reside. In 1982 more than 500 people lived around the ≠Kade borehole.

The people who began to live a sedentary life-style fall into three categories: the nomadic hunter-gatherers who lived in the CKGR; the more sedentary people who lived on hunting and gathering, but who also practiced some herding and/or cultivation; the San workers on European farms and the farm-associated people who lived in the Ghantsi farming block.

The life-style of the San clearly changed. Until recently they lived a nomadic way of life: they moved about in small groups of 20–80 people every several weeks repeatedly fissioning and fusing (Tanaka, 1980). After 1979 they settled into a sedentary life, and the group structure lost much of its fluidity. Some of them still temporarily left the settlement for hunting and gathering, and shifted their hut from one camp to another within the settlement.

METHODS

Since the G//ana San spoke no English, I employed a Nharo interpreter for one month to collect examples of G//ana speeches, with help of a G/wi- and G//ana-English dictionary compiled by Tanaka (1978b). The Nharo San, the G/wi San and the G//ana San all belong to the same linguistic group of the San language (Bleek, 1929), and the Nharo San speak a language which is similar and understandable to the G/wi and the G//ana. The Nharo have undergone the highest degree of socio-cultural change as a result of contact with the European farmers (Guenther, 1979), and a number of them can speak English, too. After I discharged the Nharo interpreter, I used the G//ana language only.

I collected the source data through direct observation, using the G//ana language. Difficulties can arise, when anthropologist conducts research at a settlement where 500 people live. I hired two G//ana men to supplement my poor G//ana speech and to collect information.

In 1982, there were 13 camps at ≠Kade. I chose one of them as my main focus group, and lived there throughout the research. My focus group consisted of 38 people who live in 12 households, in which the population ratio the G//ana to the G/wi was about 1:1 (Tanaka et al., 1984). Their original home range was the ≠Kade area. Some of them cultivated small field, and 7 households raised livestock.

From December, 1982 to January, 1983, I carried out a census of subsistence in the ≠Kade sedentary settlement. In 1982, about 500 people lived around the borehole. Out of about 100 households, I examined 71. One nuclear family was regarded as one subsistence unit, based on the following reasons: The family is the smallest social unit among the Central Kalahari San (Tanaka, 1980); it is also a sharing and cooperative unit (Tanaka, 1980); they usually build a hut for each nuclear family (Tanaka, 1980); moreover, they follow the former of these customs even in the sedentary settlement. Names which I refer to in this paper are assumed names.

RESULTS

I. Subsistence in the Sedentary Settlement

1. Agriculture

In 1982, the ≠Kade people had small fields 2–3 km away from their camp. For 46 out of the 71 households I measured the area of each field. Thirteen households had their own fields, while 33 households shared 10 fields. Although I distinguish between sole owners and the joint-owners, this distinction is a simplification of the actual condition. Some of the joint owners seldom participated in the farming of their fields. On the other hand the ≠Kade people sometimes readily helped in other's fields. There is a tendency for related families connected by parent-child or sibling relationship to own the same field. Figure 2 shows actual examples of the formation of joint-ownership.

The government freely distributed 100 kg each of seeds of maize, sorghum and cow-pea on 15 November, 1982. Beside these seeds, the ≠Kade people obtained seeds of tsama melon (*Citrullus lanatus*) through trade with the Kgalagadi. The cultivation of tsama melons is common among the Bantu in the Kalahari (Tanaka, 1980), and they are also the most successful food crop among the !Kung San (Lee, 1979). They are cooked before eating, and are one of the most important staple foods.

There is no irrigation and very little slashing and burning. The clearing of land for their fields began in October. They enclosed the area with *Acacia* branches, then cleared shrubs and grass. After enough rain had fallen to soften the ground, crops were sown and the field was plowed. They did not plant crops over the whole area of their fields at one time. They sowed seeds at a number of times, some early in the rainy season, and others later. Maize was planted by itself, while sorghum, cow-pea, and tsama melon were planted together, or intercropped. Both of these methods of cultivation are also employed by the people of the sandveld region in Botswana. The former method, multiple planting in different seasons, increased the chances of at least one patch receiving sufficient rainfall at the appropriate time. The latter, mixed planting, is drought-tolerant cultivation performed in the hope that at least some of them will grow (Hitchcock, 1986).

Although I could not observe the harvest, I estimated that it could support them for only 2–3 months. In August, 1982, there was little evidence of stored crops. Their harvest time is March, then their yields are utilized for a maximum of five months. There was a great difference in the area of fields (Table 2). The area of each field varied widely from 600 to 20,000 m² (average: 6,400, S.D.: 5,700), moreover the area of each household, obtained from dividing the area of one field by the number of owners, ranged from 500 to 18,000 m² (average: 3,300, S.D.: 3,100). Lee (1979) noted that when a Dobe !Kung farmer got 50 or 100 ears of maize from a 5,000 m² field, he was considered to have had a good year. According to Lee (1979) and Tanaka (1980), the ≠Kade area has almost the same rainfall as the Dobe area. This being the case, a ≠Kade household, who has an average-sized field, would get

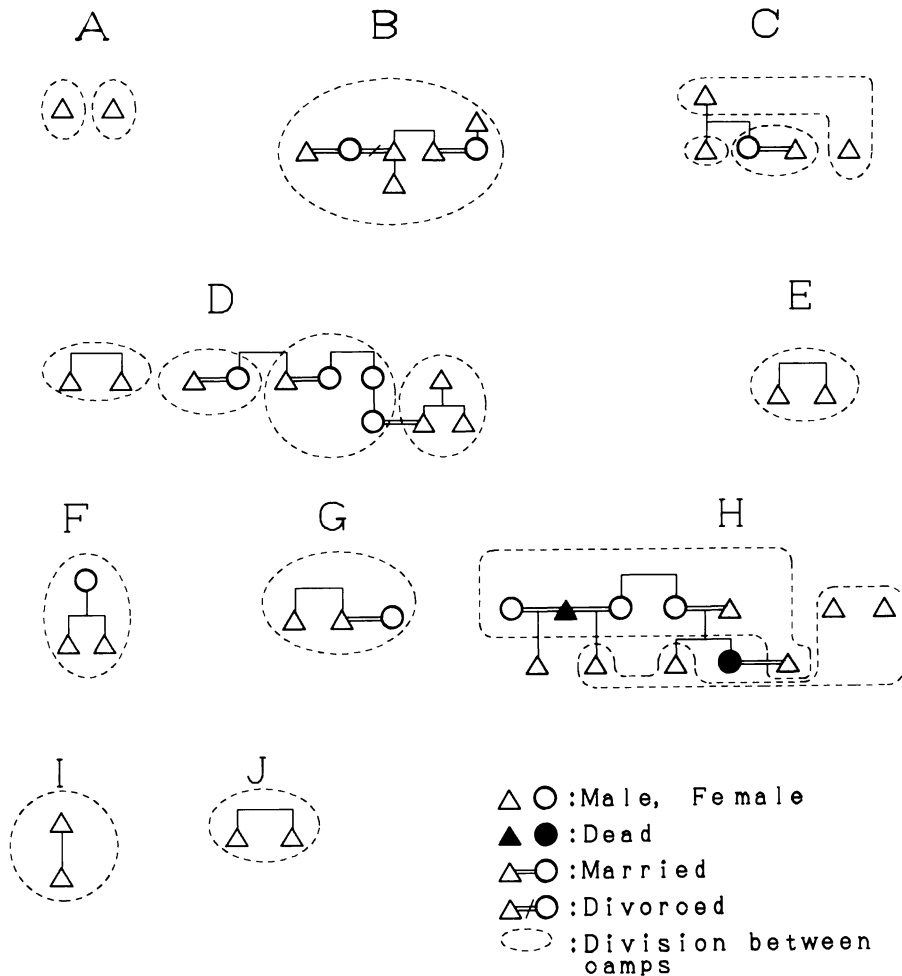


Fig. 2. Kin relationship among the joint owners of fields.

30 or 60 ears of corn in a year with good rainfall.

2. Herding

In 1982, five kinds of livestock were kept by the Central Kalahari San; goats, donkeys, horses, dogs and chickens (Cattle are not allowed to graze in the CKGR due to its status as a game reserve). I investigated the ownership of each of the goats, donkeys and horses, and the number of livestock owned by each person. The total number of livestock raised by one family is considered as the number of livestock owned by one household, regardless of personal ownership within the family (e.g. a father gave goats to his son, and/or a wife holds her own donkey). My census covered all livestock raised in the ≠Kade settlement. However, some of the ≠Kade

Table 2. The area of fields and number of joint-owners.

Household No.	Number of household	Area ($\times 10^2 \text{ m}^2$)	Area per person ($\times 10^2 \text{ m}^2$)
1	1	6	6
2	1	10	10
3	1	14	14
4	2	20	10
5	1	20	20
6	1	21	21
7	1	23	23
8	6	30	5
9	2	30	15
10	1	30	30
11	1	33	33
12	1	34	34
13	1	36	36
14	3	41	14
15	1	68	68
16	4	81	20
17	1	81	81
18	2	90	45
19	5	120	24
20	2	135	68
21	2	170	85
22	1	180	80
23	5	200	40
Total	46	1,473	

residents left their goats in their original places, when they were forced to move to the sedentary settlement. I could not count such goats. There was no livestock left by the people who moved to other places. Though two horses had died just before my census, they were included among the number.

(1) Donkey

A total of 70 donkeys were kept in the ≠Kade settlement. Forty-four households (62%) had no donkey, 10 households had only one donkey, while 9 households (13%) had a total of 46 donkeys (66%) (Fig. 3).

The donkeys were used for carrying loads and for plowing. In addition, some men were expert riders, and teen age boys rode donkeys bareback about the settlement. As mentioned later, donkeys were indispensable in the expedition equestrian hunting.

Although donkeys are important to the sedentary way of life, the ≠Kade people do not pay much attention to their management. Unless there were lions near the settlement, donkeys were pastured around the settlement even at night. During the research period, 2 donkeys were killed by lions.

(2) Horse

Forty-five households (63%) had no horse. While 26 households (37%) kept a total of 20 horses. Although goats and donkeys were not shared between households, 8 horses were shared between two or three households (Table 3). I divided the number of jointly-owned horses by the number of owners. Joint owner-

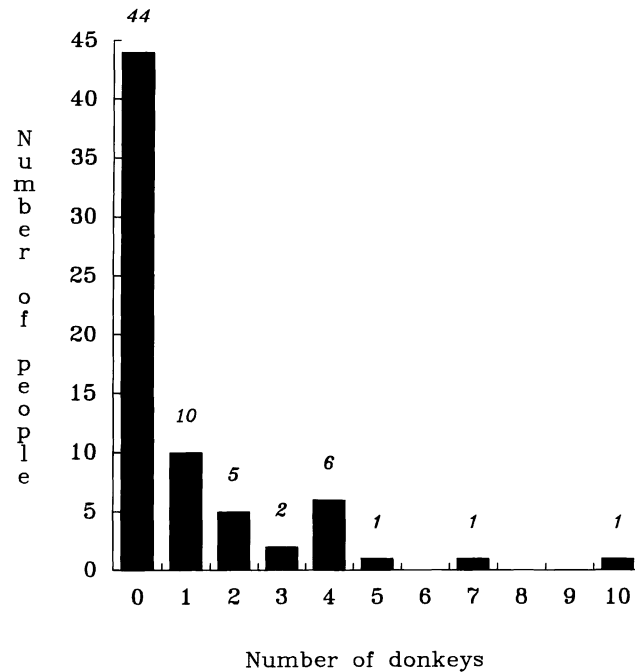


Fig. 3. Distribution of donkey ownership.

ship was found in 7 cases: brother-brother, 4 cases; father-son, 2 cases; no kin relationship, 1 case. In the last case, 3 young men who earned their money as construction workers at the \neq Kade settlement shared the expense of a horse (Table 3).

Horses were used in hunting only. However, not all of the owners could ride or hunt on horseback. Seven men out of 26 could not hunt; they rented their horses to others who were skillful at hunting on horseback, then received almost half of the

Table 3. Composition of horse holdings.

Category label	Number of cases	Number of households	Number of horses
No horse	45	45	0
One horse			
One owner	10	10	10
Two owners			
Brothers	4	8	4
Father-Son	1	2	1
Three owners			
No kin relationship	1	3	1
Two horses			
One owner	1	1	2
Two owners			
Father-Son	1	2	2
Total	63	71	20

meat acquired. Like donkeys, horses were seldom penned up at night; they were pastured around the settlement, or sometimes their fore-legs were tied together to prevent them from wandering away from the settlement.

(3) Goat

Out of 71 households, 46 (65%) had no goats; households who had one to three goats numbered 8 (11%). However, the households with over 19 goats numbered only 4 (6%). These 4 households owned 406 goats. The total number of goats raised in the settlement was 543, therefore only 6% (4 households) kept 76% (405) of goats (Fig. 4). These 4 households were raising goats in the CKGR before they began to live in the sedentary settlement.

People who owned a small herd entrusted the owner of large herd in the same camp with the care of their animals. At the same time, owners of large herds often entrusted a part of their herds to other owners of large herds. Table 4 shows the owners of goats in a goat herd which was controlled by a man named !Nuaaya. All

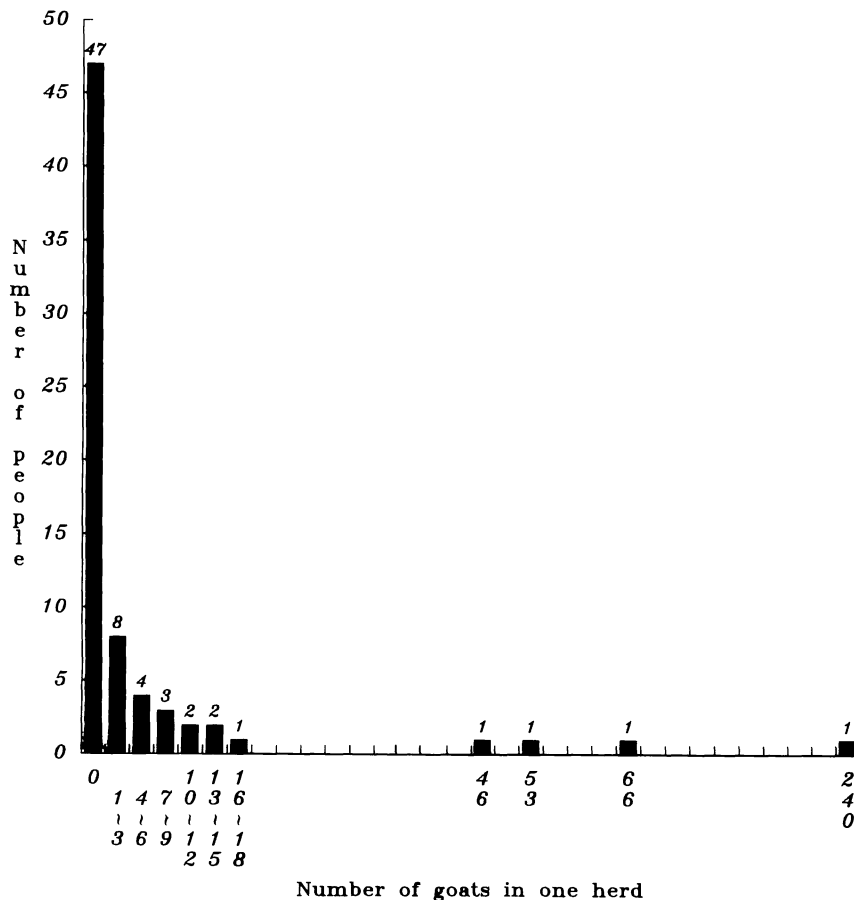


Fig. 4. Distribution of goat herds.

goats that were kept in !Nuaaya's camp were raised in his herd. Four people who lived in other camps loaned a total of 25 goats. One was !Nuaaya's son's wife's mother's brother; one was his daughter's husband; and there was no known kinship between him and the other two.

In sedentary life, ≠Kade people have mentioned the former intimacy within the "clusters of families" and "groups of clusters", not only in the trust of goats, but also in the joint ownership of horses and fields. According to Tanaka (1980), two of the four people who loaned their goats and !Nuaaya belonged to the same residential group (the same "group of clusters") when they lived by hunting and gathering. One of the remaining two and !Nuaaya established a new exchange tie after living in sedentary life; they exchanged meat and tsama melon whenever !Nuaaya's horse returned from hunting.

After milking in the kraal, the goats were turned out. They would run to the watering spot at the borehole during the dry season when there were no water holes in the veld, while they used water holes in the veld during the rainy season. After drinking water at the borehole, the goats dispersed and grazed in small groups of about 20 throughout the day. Goats which were expected to give birth were tied to a tree in the camp. New-born infants were kept in the hut. Goats grazed without being accompanied by the herder. They rested for about one hour in the shade of trees at about two o'clock in the afternoon. After resting, they grazed again towards their camp, returning to their kraal at about five o'clock. A goat, which had been transferred from one kraal to another, would be tied to another goat before being turned out to graze. The transferred goat would be freed from the bond four days later, and it would begin to follow the new herd.

If the goat herd did not come back to the kraal, as sometimes happened, someone went to find them and drove them back to the kraal. When the herd returned to the kraal, the goats were penned up without being counted. The ≠Kade people did not make sure whether all of their goats had come back or not. Even when one or two goats which had lost sight of their herd wandered over the settlement, nobody caught

Table 4. Owners of goat in !Nuaaya's herd.

Category label	Number of goat
People who lives in same camp	
!Nuaaya*	54
son (married)*	6
nephew*	2
daughter's divorced husband*	2
not related	5
not related	2
not related	1
People who lives in different camp	
daughter's husband*	12
son's wife's mother's brother	9
not related	4
not related*	1

*: Those who belong to the same "group of clusters" as !Nuaaya. For "group of clusters", see Tanaka (1980: 132).

them to drive them back to the kraal. Such goats were left free until the next morning.

3. Gathering

In the sedentary way of life, the ≠Kade people cannot primarily depend on gathering as before. Among the Kalahari San, gathering was most important when the people led a nomadic life (Lee, 1968, 1979; Tanaka, 1980). Lee & DeVore (1968) made two basic assumptions about hunters and gatherers: that they lived in small groups, and that they moved around a lot. According to Tanaka (1980), in the traditional gathering strategy, the ≠Kade San used in their food-gathering activity a range less than 5 km in radius, centered around the camp site, and shifted their camp when they had consumed the food plants within the range. A nomadic life-style is necessary in order to live on wild edible plants.

Although gathering has become less important in their diet (Osaki, 1984), it is still carried out in the rainy season. I observed 7 plants which were utilized in the sedentary settlement (Table 5). There are two kinds of nuts which were of great importance to the Central Kalahari San, *Bauhinia petersiana* and *Tylosema esculentum*. *Bauhinia petersiana* grows in an open scrub plain over 40 km to the north of the settlement, where there is no water, no firewood, and no suitable shady trees for resting. They sometimes make a trip of a few days by donkey to collect it (Tanaka, 1978, 1980). Although I did not observe such long-distance trips, because my research was not conducted in the fruiting season of *Bauhinia petersiana*, the ≠Kade people said that they would go to collect the nuts by donkey (Osaki, 1984). I also observed that several people had stored *Bauhinia* and *Tylosema* nuts during my research. These nuts are still of great importance to the sedentary people.

Teen-aged boys devoted themselves to gathering *Grewia flava*, *Citrullus lanatus*, and *Acanthosicyos naudiniana* on donkeyback. Six boys went gathering to G/enohonom, 10 km away from the settlement, and returned in the evening. They collected 6 kg of berry (*Grewia flava*), 10 water melons (*Citrullus lanatus*), and 4 of another species of water melon (*Acanthosicyos naudiniana*).

The number of plant species regarded as food by the ≠Kade San totals 80. Tanaka classified these food plants into five categories by their utility value. Eleven species were classified as “*major foods*”, which comprised a major part of the diet in a certain season; which were abundant; which were easy to gather and carry; which were

Table 5. Species of plants utilized as food in ≠Kade settlement.

Scientific name	Vernacular name	Remarks
<i>Grewia flava</i> *	kxom	berry
<i>Acanthosicyos naudiniana</i> *	kan	melon
<i>Citrullus lanatus</i> *	n//an	melon
<i>Bauhinia petersiana</i> *	n≠an≠te	bean
<i>Tylosema esculentum</i>	/oi	bean
<i>Ledebouria</i> sp.	kware	tuber
<i>Cucumis kalahariensis</i>	!om/e	root

Identification of plants from Tanaka (1980: 56).

*major foods in sedentary life.

tasty and nutritious (Tanaka, 1980). All seven plants utilized in the sedentary settlement belonged to Tanaka's "major food" category.

The number of species of plants utilized by the ≠Kade people totals seven, of which five are still used as major foods in the sedentary way of life. They are *Bauhinia petersiana*, *Tylosema esculentum*, *Grewia flava*, *Citrullus lanatus*, and *Acanthosicyos naudiniana*. In addition to their dominance in the diet (Tanaka, 1980), they are easy to store.

4. Hunting

Instead of the traditional bow-and-arrow hunting, the Central Kalahari San have adopted horses for spear hunting. During my 5 months stay in the ≠Kade settlement, 91 large animals were killed by equestrian hunting, while only three large animals were killed by bow and arrow, and only one by spear hunting with dogs (Table 6). The three large animals killed by bow and arrow were hunted by the same man (in his 50's). Young people, in their 20's or 30's, could not hunt with bow and arrow, and only two or three old people still carried out this method.

Equestrian hunting (spear hunting on horseback) can be divided into the following two methods: one-day hunting and group expedition hunting. The former method is performed whenever each hunter wants to do so, or when an animal comes close to the settlement. The first step is to search for the tracks of animals. If the tracks are new enough, the hunter starts to follow them. Once the hunter locates the target, he begins to chase it in the direction of the settlement, as much as possible. When the target comes close enough to the settlement, he kills it. When the animal falls, it is covered with branches to protect it from hyenas and vultures. On returning to the settlement, the hunter announces where he has killed the animal and asks someone to go and carry it back with donkeys. This hunting method is not carried out so often, because it largely depends on chance.

The second hunting method is group expedition hunting. Typical expeditions consist of six to seven persons: one or two hunters with horses, and four or five cooperators with donkeys which are used for transportation. One expedition usually last about one week. During the expedition, hunters set up a hunting camp, 40–50 km away from the settlement, in a place where water is available. The hunting methods used in the group expedition hunting are identical to those of one-day hunting except for the following two points: (1) group expedition hunting is performed after a prior arrangement; (2) cooperators dry and preserve the meat to carry it to the settlement.

The traditional bow-and-arrow hunting is an unreliable method which needs large

Table 6. Total number of animals killed by hunters from September 1982 to January 1983.

Methods	Number of kills	Estimate of total weight (kg)
Equestrian	87	22,800
Bow and arrow	3	700
Hunting with dogs	1	200
Total	91	23,700

Source: Osaki (1984: 53).

amounts of labor input and involves a great degree of unpredictability as to whether a good sized animal can be obtained (Tanaka, 1980). It means that even an excellent hunter kills a large animal largely by chance, though it is true that his hunting success depends on his ability. In other words, there may be no correlation between the number of hunting days and the number of kills. In equestrian hunting, however, the correlation between the number of hunting days for each hunter and the number of kills is quite high ($r = 0.88$, $t = 6.08$, $p < 0.001$), and it takes only two days on average to kill one large animal (Osaki, 1984). During the five month investigation period, the amount of meat obtained by equestrian hunting was estimated to be 22,800 kg, of which 88% (20,000 kg) was obtained by group expedition hunting. In 1982, ≠Kade people depended chiefly on this highly efficient and predictable method of hunting.

5. Entrepreneurship

Table 7 shows the sources of cash income in the settlement. These activities occurred after the beginning of the sedentary life-style.

(1) Folk-art manufacture

Botswanacraft Company, buying agent of traditional handicrafts, visited twice a year to purchase San folk-art articles from the ≠Kade people. Botswana's national economy depends chiefly on the mining of diamonds and the modern cattle industry. However, the majority of people who inhabit rural areas do not share the benefits of development, and have little access to cash income except by selling their own livestock. Botswanacraft Marketing Company was founded to bring them into the economy, improving their standard of living and creating new employment opportunities.

This became one of their most important sources of income. Table 7 shows the list of items purchased by Botswanacraft, and the price paid for them. No income

Table 7. Sources of cash income (January 1983).

Item	Price (Pula)
Folk-art articles bought by Botswana craft	
Tanned skin (goat)	8.00
Egg of ostrich	1.00
Egg of ostrich (decorated)	2.50
Knife	2.50–3.00
Beaded bag	4.00–7.00
Skin rope	10.00
Hunting set	8.00–12.00
Spear	1.00
Bow and arrows	3.50
Thumb piano	2.00–4.00
Daily allowance of construction worker	2.50
Meat trading: 15 kg of dried meat	8.00–10.00
Horse	60.00 and 6 goats
Unrefined wine (200 ml)	0.10

1 Pula = U.S. \$ 1.1, 1983.

figures are available for the ≠Kade area, but that of the entire Ghantsi District in 1980 was 4,446.55 Pula (Ministry of Local Government and Lands 1981: 100).

(2) Construction work

In 1982, the construction of six concrete-block buildings, for a school, medical clinic, RADP office, school teacher's houses began. It was completed in 1983. Seven San inhabitants of Kade were employed as construction workers. Their daily wage was 2.50 Pula, and in addition to this they also received their food.

(3) Meat trading

The meat trade with visitors was active. The motor traffic between Ghantsi and the settlement became much more frequent than before with inspections by government officials, transportation of diesel oil, food for the San, and construction materials. Visitors and drivers often bought wild meat acquired by the San through hunting, because its price was much lower than that of meat in Ghantsi.

All these cases are concerned trade with outsiders, but I observed trade among the San as well.

(4) Brewing

Those of the San who had enough money to buy sugar began to brew and sell unrefined local beer. The brewing consisted in dissolving sugar in warm water and adding yeast, then leaving it for a day and a night to ferment. Twenty liters of beer was made from 2 kg of sugar, which it cost 1.80 Pula in Ghantsi. A 200 ml cup of beer was sold at 10 thebe (1 Pula = 100 thebe), but ≠Kade people did not exchange beer for money on the spot. Both the brewer and the drinker engraved the debt on their memories, and in the future the drinker would pay back cash, if possible, or in kind, with meat, cultivated tsama melons, or some other things.

(5) Livestock trading

Livestock trading among the ≠Kade people was observed in three cases: one case involving goats and two cases involving a horse.

II. Haves and Have-Nots in Sedentary Settlement

Although there was enough water for livestock in the settlement, a large proportion of the people had no goats, donkeys, or horses. Table 8 shows the ownership of each kind of livestock in the ≠Kade settlement. Twenty-eight households (39%) kept no livestock, and 10 households (14%) have all three kinds of goats, donkeys and

Table 8a. Ownership of livestock in ≠Kade settlement.

Category label	Number of household
No livestock	28
Goat only	5
Donkey only	3
Horse only	11
Goat and donkey	9
Goat and horse	1
Horse and donkey	4
Goat, donkey and horse	10
Total	71

Table 8b. Number of each livestock in ≠Kade settlement.

Category label	Number of livestock		
	Goat	Donkey	Horse
No livestock	0	0	0
Goat only	81	0	0
Donkey only	0	7	0
Horse only	0	0	7.5*
Goat and donkey	58	17	0
Goat and horse	1	0	1
Horse and donkey	0	14	4
Goat, donkey and horse	403	42	7.5*
Total	543	80	20

* Joint ownership was found in ≠Kade settlement. In these cases, I divide the number of horses which are jointly owned by the number of owners.

horses. The latter 10 households kept a total of 403 goats (74%), 42 donkeys (53%) and 7.5 horses (37%). There was a great deal of variation among these 10 households in the number of goats owned. Three households accounted for a total of 363 goats, while the remaining 7 households kept a total of only 40. The former 3 households had adopted herding before the establishment of the sedentary settlement. The ample supply of drinking water was made herding easy only for a handful of people who already owned livestock.

It is concluded that the majority of the ≠Kade people have not yet adopted herding. Tanaka described the attitude of hunter-gatherers toward domesticated animals as follows: "In the 'life for today' life-style of the San, any food obtained is consumed immediately: the concept of planning or saving for the future is alien to them. Hunting and gathering peoples view animals as immanent edibles, not as a form of wealth or future food to be propagated and increased through domestication; it is thus natural that the San show little interest in animal husbandry" (Tanaka, 1980: 50–51). This traditional attitude still prevents the majority of the ≠Kade people from taking up herding.

Let's examine how this maldistribution of livestock influences the daily life of the ≠Kade people. During my stay, the ≠Kade people frequently milked goats. They warmed the milk and drank it with tea, and, if there was enough, cooked maize meal with it. Six goats were slaughtered, one died naturally (Osaki, 1984), and one was stolen and may have been eaten. Milk and meat contribute little to the diets of the 500 people. However, the goats are worth raising not only as potential food sources, but also as property that can be exchanged for a horse, a donkey, or money.

Donkeys are not eaten but are used as pack animals to transport meat, wild food plants, firewood, and water from the borehole to the settlement. Other uses of donkeys are for riding and for pulling the plough. Unless people own a donkey, they must transport firewood and water on their own back, but, not all donkey owners utilize their donkeys every day. One who doesn't own donkeys can borrow some for plowing. However, there is one privilege for a donkey owner: if he loans donkeys to hunters, he will receive meat in return.

Horses are used only in equestrian hunting (spear hunting on horseback). The

changes in the hunting methods, discussed above, have also influenced the pattern of meat distribution. In principle, the animals killed in equestrian hunting belong to the horse owners. A small number of horse owners would obtain almost half of meat, then all of the participants of hunting would share the remaining meat. By contrast, in traditional bow-and-arrow hunting (e.g. Marshall, 1976; Lee, 1979; Tanaka, 1980; Silberbauer, 1981), the people who receive meat in the second stage of distribution are limited to close relatives and intimate friends (Osaki, 1984).

III. Sharing of Meat in the Sedentary Way of Life

A great deal of the meat, which comes to the owner of the horse, is consumed not only by his family, but also by other residents of the same camp, and by visitors from other camps, although the second distribution is limited to smaller groups than before. The following examples show how the meat, which is acquired by the owner of the horse, is consumed:

Case 1 (15–16 December 1982)

Characters are as follows (There was no known kin relationship between !Nuaaya and anyone whose kinship is not mentioned).

!Nuaaya: Owner of a horse.

Maho: !Nuaaya's son. Maho and his son live in another camp. He and !Nuaaya own a horse.

Tuero, Nosue: They belong to the same group of clusters as !Nuaaya, but live in other camps.

Daogan: !Nuaaya's son. He lives in another camp.

Tsmako: His wife is !Nuaaya's step daughter. He belongs to the same group of clusters as !Nuaaya, but lives in another camp.

Deongzwa, Takwe: Residents of !Nuaaya's camp. Participants in the hunting.

!Ei/tebe, Akoosa, Shiehog/ae, Kemaji: Residents of !Nuaaya's camp.

Daogu: A resident of !Nuaaya's camp. He is !Nuaaya's wife's sister's son.

Together with seven cooperators, Maho and Takwe, who were hunters and owners of horses, went hunting and returned on 15, September. Maho killed three gemsboks and two elands. Each of the seven cooperators received one bundle of dried meat (10–15 kg). Daogu received 4.5 kg of meat. I could not measure the amount of meat that Takwe received, nor the amount of meat that !Nuaaya received. A member of Nonformal Education, who visited the settlement to inspect the school, bartered four cups of 200 ml tobacco leaves for 6 kg of dried meat with !Nuaaya. Tuero received 3 kg of dry meat from !Nuaaya. Daozgan and !Ei/tebe received meat from !Nuaaya. I could not measure the amount of meat shared, but I estimated that they received 4 kg each. Tsmako and Nosue visited and pressed !Nuaaya to give them some meat, but they failed. "You want a great deal of meat to rot, don't you?", they cried over their shoulders, as they left !Nuaaya's camp. !Nuaaya began to cook 3 kg of meat for his family.

Next morning, the weight of !Nuaaya's meat was 90 kg. A liaison officer of the Remote Area Development Programme (RADP) bought 7 kg of dry meat at 4 Pula from !Nuaaya. Nosue visited and pressed !Nuaaya to share meat again, but failed again. When !Nuaaya began to cook meat, Nosue left !Nuaaya's camp.

At noon, the following people ate !Nuaaya's meat:

- (1) Participants in the hunting and their families: Maho, Maho's son, Deongwa, Deongwa's wife, and their three children.
- (2) Owner of horse and his family: !Nuaaya and his wife.
- (3) Non-participants: Shiehog/ae and Kemaji.

In a place a little further from !Nuaaya's cooking place, Deongwa had been sewing a skin bag, and Takwe had been making a wooden box since morning. Both men participated in the hunting and received their own meat. Deongwa stopped his work and joined the meal, when the meat was ready. Akoosa came back from another camp, and began to help with Takwe's work. Akoosa and Takwe seemed to devote themselves to making the box, without turning their faces towards the people who were eating meat. Nobody invited them to the meal.

In contrast to traditional life, only a small portion of meat was shared by the horse owners, then after the re-distribution there was a considerable difference between the horse owners and the others in the amount of meat received. I estimated the amount of meat which the horse owner received was 106 kg, 15.5 kg (15%) of meat was shared, and 13 kg (12%) was sold by the horse owner in two days.⁽²⁾

Instead of pre-cooked meat, the horse owners share cooked meat. People who receive a smaller portion of meat do not eat it immediately but keep it in reserve, in the hope that they will have a chance to eat with the horse owners who reserved a larger amount of meat. As a result, the obvious disparity between the haves and the have-nots is corrected.

Case 2 (3 January 1983)

Characters are as follows:

Gyube: Hunter.

Tsomako: Gyube's brother.

Maho (my informant), Pirisi: They belong to the same group of clusters as Gyube and Tsomako, but live in another camp.

Shook: A resident of Gyube's camp.

Gyube and Tsomako owned a horse. On the previous day, Gyube had been one-day equestrian hunting with his horse, and had killed a gemsbok (*Oryx gazella*) at G/enohonam, about 10 km away from the settlement. In the evening, he brought back only one fore-leg to his camp, because it was too late to ask someone to bring the whole carcass for him. The next morning, he asked me to bring it back with my truck. Maho, Shook, and Pirisi joined us. These three men and Gyube used to go expedition hunting together. It took an hour (9.7 km) to reach the kill site in my truck. After they had butchered the animal, they roasted the liver and ate it. The bones were also roasted and their marrow was eaten.

When we got back to the camp, a liaison officer of RADP was waiting for Gyube to buy meat. However, Gyube said he could not sell meat because his brother was out. The liaison officer gave up and returned to his office.

The distribution of meat is as follows: Shook who lived in the same camp as Gyube, got nothing.

Persons who lived in another camp, Maho and Pirisi, got lungs and skin, and neck respectively.

Gyube kept all of the rest of the meat. Maho and Pirisi took meat to their camp.

Maho gave the lungs to dogs.

The distribution in this case seems to have been unusual because I helped them to carry their meat. However, there is a considerable disparity in sharing between a man who lives in the same camp as the hunter, and men who live in another camp. The reason why Shooko received no meat was not that he has no right to receive it, but that he could be sure that he would receive a small portion of cooked meat from the horse owners later.

IV. Changes Occurring in 1984 and 1987

I will now refer to the changes that occurred in 1984, after my research, which are reported in Tanaka (1987), and the changes that occurred in 1987, which are reported in Sugawara (1988) and Ikeya (1989).

1. 1984

Between 500 and 600 people lived in the ≠Kade settlement. Three school teachers arrived, the school buildings were completed in 1983, and the primary school was formally opened. There were 125 pupils in September, 1984. Six subjects were taught: English, Setswana, arithmetic, science, social studies, and religion. A nurse was sent by a mission, and medical care became available every day except for Sundays. As a part of the agricultural promotion, three female goats were distributed to each family, who had no goats. The distributed goats were not given but "loaned"; those who succeeded in goat-raising were supposed to return three goats to the government. The Botswana Craft Company supported the establishment of a shop, which dealt in food and everyday goods. The system was half cooperative.

The ≠Kade people had greater access to cash income. The Ghantsi Craft Company, which was established as a non-profit organization in 1983 by Danish volunteers, visited the ≠Kade settlement to buy folk-art articles every two months. The water supply system was under construction. To improve the transportation route, road construction was started in 1983. Many of the ≠Kade people were employed as laborers for this road construction as well as for the water supply system construction (Tanaka, 1987). However, two means of subsistence, agriculture and hunting, seemed to remain unchanged (Tanaka, personal communication).

2. 1987

There was no change in labor in road construction, manufacture of folk-art articles, agriculture, or herding, but the hunting method did change. According to Ikeya (1989), bow-and-arrow hunting was no longer practiced, while equestrian hunting (spear hunting on horseback) was still popular, and the number of horses had increased from 20 in 1982 to 77 in 1987. During five months, 68 large animals were killed by equestrian hunting. Besides equestrian hunting (spear hunting on horse back), hunting with dogs (hunting with a spear or club with the help of dogs) had become common. During the same period, 23 animals were killed by hunting with spear and dogs, and 35 infant animals were killed by the hunting with club and

Table 9. Change of hunting technique.

Technique	1982*		1987**	
	Number of animals	Estimate of weight (kg)	Number of animals	Estimate of weight (kg)
Bow-and-arrow	3	700	0	0
Dog-hunting				
spear	1	200	23	4,700
club	0	0	35	1,750***
Equestrian hunting	87	22,800	68	16,300
Total	91	23,700	126	22,750

* Osaki (1984: 53).

** Ikeya (1989).

*** Since Ikeya noted that infant animals were killed with a club, I estimate the average weight of an infant animal as 50 kg.

dogs (Table 9).

Formerly, hunting with dogs had been a subsidiary hunting method. Tanaka (1980) noted that "if he owns a dog, the San may hunt with a spear with the help of the dog; in the case of small birds or animals, he may beat them to death with a club". In 1982, when the San first began to live a sedentary life, only one animal was killed by this method in five months (Osaki, 1984).

According to Ikeya (1989), hunting with dogs can be divided into the following two methods: (1) hunting middle-sized animals with a spear and dogs, (2) hunting small or infant animals with club and dogs.

The first method is a kind of group expedition hunting. A typical hunting expedition consists of five to six persons with dogs, which are used for chasing animals, and donkeys, which are used to transport the meat. One hunting expedition usually takes about one week. During the expedition, hunters set up a hunting camp where water is available. The hunting camp is usually 40 to 50 km away from the settlement. The second method is one-day hunting. Individual hunters leave the settlement in the morning and return in the evening.

The meat is distributed equally among the participants of hunting with dogs. After the first distribution, it is further distributed to non-participants within the camp. A hunter may present all of the meat acquired to elders or women without eating any himself. In contrast to equestrian hunting, the principle of egalitarianism is still effective in hunting with dogs (Ikeya, 1989).

DISCUSSION

I. Hunter-Gatherers with Delayed-Return Systems

Woodburn (1980, 1982) classified hunting and gathering societies into two major categories, those with immediate-return systems and those with delayed-return systems.⁽³⁾ In societies with immediate-return systems people obtain a direct and immediate return from their labor. Included in this category are such nomadic

hunter-gathers as the !Kung San, the Hadza, and the traditional Central Kalahari San.

Delayed-return systems, by contrast, have the following characteristics. People hold rights over valued assets of some sort, which either represent a yield, a return for labor applied over time or, if not, are held and managed in a way which resembles and has similar social implications to delayed yields on labor. In delayed-return hunting and gathering systems these assets are of four main types, which might occur separately, but are more commonly found in combination with one another and are mutually reinforcing:

- (1) Valuable technical facilities used in production.
- (2) Processed and stored food or materials, usually in fixed dwellings.
- (3) Wild products which have themselves been improved or increased by human labor.
- (4) Assets in the form of rights held by men over their female kin who are then bestowed in marriage on other men (Woodburn, 1982).

The sedentary ≠Kade San fit the definition of a delayed-return system on two counts: some of them own horses (the first characteristic); and they live a sedentary life, cultivate fields, and store dried food (the second characteristic).

In contrast to traditional life, the meat which is acquired by equestrian hunting is always distributed by the horse owners to the people who do not own a horse. Both positions, giver and receiver, are fixed, unless a person who has no horse buys one. However, horses are not easily obtainable to the majority of the ≠Kade people. Even though they get some cash income from Botswana craft, and by selling meat to visitors, it is difficult for people whose life is still characterized by "immediate-return system" (Woodburn, 1982), to save enough money to buy a horse (Osaki, 1984).

The one-way flow of distribution, which did not exist in the traditional hunter-gatherer society. Egalitarianism depended on equal opportunities. Its functions provided that everybody could supply meat, not necessarily now, but some day (Tanaka, 1987). Woodburn (1982) also pointed out one of the basic characteristics of the social organization of egalitarian societies: people are not dependent on specific other people for access to basic requirements.

Woodburn (1982) showed that all the six immediate-return systems were profoundly egalitarian; delayed-return systems were far more variable, but not one of them is egalitarian to nearly the same extent as any one of the immediate-return systems. Then, to what extent are the sedentary ≠Kade San egalitarian? The transition of hunting methods following sedentism furnishes the true key to this question.

II. Hunting Methods among the Sedentary ≠Kade San

Dog hunting became popular in 1987, although the quite effective equestrian hunting had already been adopted. Ikeya (1989) noted that the following four factors were responsible for the sudden increase in hunting with dogs: (1) horses were too expensive for the majority of the ≠Kade people; (2) equestrian hunting involved

abstruse technicalities; (3) equestrian hunting did not fit in with the nature of the San, because this was introduced from the Kgalagadi; (4) the increase in the number of dogs made it easier than before to carry out hunting with dogs.

In 1987, the number of horses was nearly twice as many as in 1982, but the population of the ≠Kade settlement was still about the same (Ikeya, 1989). It became easier for the ≠Kade people to purchase a horse in 1987 than in 1982, because the sources of cash income, road construction work, and by selling folk-art articles to Ghantsicraft, had increased.

Of the factors which Ikeya (1989) pointed out, the increase in the number of dogs is the only one which could be responsible for the increase in the hunting with dogs. According to Ikeya (1989), about 10 dogs were used in hunting with dogs, but only one or two dogs helped hunters.

According to Ikeya (1989), hunting with dogs can be divided into two methods; hunting such big animals as gemsbok (*Oryx gazella*) or kudu (*Tragelaphus strepsiceros*) with a spear and dogs, and hunting infant animals with a club and dogs. Dog-hunting bears the characteristics of such big game hunting methods as the traditional bow-and-arrow hunting and equestrian hunting, and such small game hunting methods as trapping and springhare hunting with a pole.

The three main characteristics of equestrian hunting are as follows: (1) this hunting method is more suitable than bow-and-arrow hunting for hunters who live in a sedentary settlement; (2) the horse owners can sell some of the dried meat to get cash, because they receive a large proportion of it; (3) the distribution of meat is one-way flow, from a specific minority to others.

According to Ikeya (1989), the characteristics of hunting with dogs were following three points: (1) big game was seldom hunted by the hunting with dogs, usually medium- or small- sized animals; (2) the first distribution of the meat acquired by hunting with dogs was based on the traditional egalitarianism; (3) the second distributions were, from the participants of the hunting to other members of the camp.

Ikeya (1989) did not mention whether the meat acquired by the hunting with dogs was sold. I guess that the meat acquired by hunting with dogs is seldom sold, but is consumed by the hunters' families, because the meat which is received by each person at the last stage of sharing is only a small amount.

III. Durability of Egalitarianism

The sharing pattern of the Central Kalahari San's traditional society was reciprocal (Fig. 5.1). Since any man could go hunting, there was an opportunity for every man to kill game. Thus, one who received meat this time would supply meat the next.

Their hunting methods have completely changed. Instead of traditional bow-and-arrow hunting, they were using horses for hunting in 1982. Equestrian hunting (hunting on horseback) is so effective that a great amount of meat is acquired in one hunting trip. They had begun to sell some of this meat to visitors to get cash. Inequality in the first distribution of meat had occurred. The horse owners received ap-

proximately half of meat, while others received only a small amount. Such inequality did not occurred, when they led a nomadic life.

Equality remains unchanged in the sharing of meat which is stored by the horse owners. The principle of equality remains influential, but the flow of the meat is one-way, always from the minority of horse owners to the majority of others (Fig. 5.2). One-way flow of distribution did not exist in their traditional society.

The meat sharing of the hunting with dogs compensates for the one way distribution of the equestrian hunting. The pattern of the meat sharing in 1987 resembles that of their traditional life-style (Fig. 5.3). Besides equestrian hunting, hunting with dogs (hunting with spear or club, with the help of dogs) became popular in 1987. In contrast to equestrian hunting, everybody can participate in hunting with dogs on equal terms. The meat, which is acquired by hunting with dogs, is distributed equally among the participants, then the participants share the meat with non-participants within the same camp.

The egalitarianism which the spread of the equestrian hunting made precarious has been activated again by the hunting with dogs. Since they depended on the equestrian hunting in 1982, almost all meat sharing was one-way. At that time, however, not only the nomadic San who began to live in sedentary life, but also the farm San who immigrated from the European farms could not endure one-way flow of this kind. Moreover, deep within both the minority of horse owners and the majority of others have remained the unwritten law "sharing should not be one way, but reciprocal". It is concluded that the sudden spread of the hunting with dogs has resulted from the ≠Kade peoples' own initiative in selecting the hunting techniques.

Tanaka (1987) noted that there were many problems without easy solutions facing the ≠Kade people: destruction of flora around the residential area, alcohol and violence, and dependence on aid food. Only in their hunting activities, the ≠Kade people have established harmony between their own tradition and modernization. At present, nobody can escape from modernization, and even the San have been forced

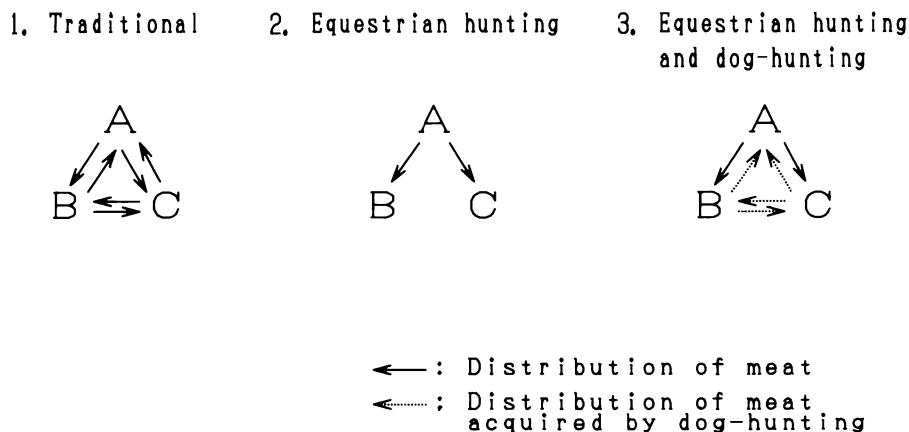


Fig. 5. Change of sharing pattern.

to live in the ≠Kade settlement. Since equestrian hunting is suitable not only for the sedentary life-style, but also for meat trading, they had adopted this method instead of their traditional bow-and-arrow hunting. On the other hand, they have also adopted hunting with dogs which is compatible with their traditional values. The reason why the two different kinds of hunting techniques exist together is that the egalitarianism is still something which they never forget.

I may seem to present an affirmative aspect of the sedentarization among the Central Kalahari San, but it is concluded that any development policy should take into consideration the inheritance of traditional values.

NOTES

- (1) I will use the name "≠Kade" to refer to the name of place where the borehole and the settlement locate. This place is called "IKoi!kom" by the San, but the government officials denounce there as ≠Kade.
- (2) In a previous report, I estimated the amount of meat sold by the ≠Kade people to be one fourth (Osaki, 1984). Re-assessment of the data shows the amount to be closer to one tenth.
- (3) Woodburn (1982) himself admitted that it was indeed over-simplified dichotomous categorization, and so do I. However, this categorization is useful in considering the process of culture change among the hunter-gatherers.

ACKNOWLEDGMENTS I should like to express my gratitude to: the Botswana Government for granting permission to conduct this research, particularly Mr. S. S. Modimakweane and Mr. N. E. Mooko of the President Office, Mr. G. G. G. Seeletso, District Commissioner of Ghantsi; Dr. T. Jenkins, Professor of the South African Institute for Medical Research, for his warm hospitality; Dr. A. Traill, Professor of University of the Witwatersrand, for his valuable suggestions on San language; Mr. A. Campbell, former Director of National Museum and Art Gallery in Gaborone, for his kind support; Mr. and Mrs. DeGraaf in Ghantsi, Mr. and Mrs. Jarling and Mr. and Mrs. Braam le Roux in Dekar for their warm cooperation and hospitality; Mr. S. Kawamura, former Vice Council of Consulate-General of Japan, Pretoria, for his kind support.

I would like to express my heartfelt thanks to the research team director Dr. J. Tanaka, Kyoto University, and Dr. K. Sugawara for their cooperation in the field throughout the study period. Dr. J. Itani and other members of the Center for African Area Studies and members of Laboratory of Human Evolution Studies, Kyoto University, also encouraged me in this study. Lastly, I thank all San friends who so warmly welcomed and helped me during my stay among them.

The study was financially supported by the Monbusho International Scientific Research Program (Nos. 62043073 & 63041026) from the Ministry of Education, Science and Culture, Japan.

REFERENCES

- Biesele, M., M. Guenther, R. Hitchcock, R. Lee, & J. MacGregor 1989. Hunters, clients and squatters: the contemporary socioeconomic status of Botswana Basarwa. *African Study Monographs*, 9(3): 109–151.

- Bleek, D. F. 1929. *Comparative Vocabularies of Bushman Languages*. Cambridge University Press, Cambridge.
- Childers, G., J. Stanley, & K. Rick 1982. *Government Settlement or People's Community : A Study of Local Institutions in Ghantsi District*. Government Printer, Gaborone.
- Denbow, J. R. 1984. Prehistoric herders and foragers of the Kalahari: The evidence for 1500 years of interaction. In (C. Schrire, ed.) *Past and Present in Hunter-gatherer Studies*, pp. 175–193, Academic Press, Orland.
- Elphick, R. 1977. *Kraal and Castle: Khoikhoi and the Founding of White South Africa*, Yale University Press, New Haven.
- Guenther, M. 1975. The trance dancer as an agent of social change among the farm Bushmen of the Ghanzi District. *Botswana Notes and Records*, 7: 161–166.
- 1976. From hunters to squatters: Social and cultural change among the farm San of Ghanzi, Botswana. In (R. B. Lee & I. DeVore, eds.) *Kalahari Hunter-Gatherers: Studies of the !Kung San and Their Neighbors*, pp. 120–133, Harvard University Press, Cambridge.
- 1979. *The Farm Bushmen of the Ghanzi District, Botswana*. Honschul-Verlag, Stuttgart.
- 1986. *The Nharo Bushmen of Botswana: Tradition and Change*. Helmut Buske Verlag, Hamburg.
- Hitchcock, R. K. 1986. Sandveld agriculture in Botswana. *Botswana Notes and Records*, 8: 91–105.
- Ikeya, K. 1989. Hunting activity of the Central Kalahari San (in Japanese). *Kikan Jinruigaku*, 20(4): 284–329.
- Leacock, E. 1982. Adaptive flexibility in a multi-ethnic setting: the Basarwa of the Southern Kalahari. In (E. Leacock & R. Lee, eds.) *Politics and History in Band Societies*, pp. 213–222, Cambridge University Press, Cambridge.
- Leacock, E. & R. Lee 1982. Introduction. In (E. Leacock & R. B. Lee, eds.) *Politics and History in Band Societies*, pp. 1–20, Cambridge University Press, Cambridge.
- Lee, R. B. 1968. What hunters do for a living, or, how to make out on scarce resources. In (R. B. Lee & I. DeVore, eds.) *Man the Hunter*, pp. 30–43, Aldine, Chicago.
- 1969. !Kung Bushmen subsistence: An input-output analysis. In (A. P. Vayda, ed.) *Environment and Cultural Behavior*, pp. 47–79, Bucke Memorial Society, Montreal.
- 1976. !Kung spatial organization: an ecological and historical perspective. In (R. B. Lee & I. DeVore, eds.) *Kalahari Hunter-Gatherers: Studies of the !Kung San and their Neighbors*, pp. 73–97, Harvard University Press, Cambridge.
- 1979. *The !Kung San: Men, Women, and Work in a Foraging Society*. Cambridge University Press, Cambridge.
- Lee, R. B. & I. DeVore 1968. Problems in the study of hunters and gatherers. In (R. B. Lee & I. DeVore, eds.) *Man the Hunter*, pp. 3–12, Aldine, Chicago.
- Marshall, L. 1957. The kin terminology system of the !Kung Bushmen. *Africa*, 27: 1–25.
- 1960. !Kung Bushmen bands. *Africa*, 30: 325–355.
- 1961. Sharing, talking and giving: Relief of social tensions among !Kung Bushmen. *Africa*, 31: 231–249.
- 1969. The medicine dance of the !Kung Bushmen. *Africa*, 39: 347–381.
- 1976. *The !Kung of Nyae Nyae*. Harvard University Press, Cambridge.
- Ministry of Local Government and Lands 1981. *Remote Area Development Workshop: 10-14 November, 1980*. Government Printer, Gaborone.
- 1982. *Remote Area Development Workshop: 12–23 October 1981*. Government Printer, Gaborone.
- Osaki, M. 1984. The social influence of change in hunting technique among the Central Kalahari San. *African Study Monographs*, 5: 49–62.
- Schrire, C. 1980. An inquiry into the evolution status and apparent identity of San hunter-gatherers. *Human Ecology*, 8(1): 9–32.
- Silberbauer, G. B. 1965. *Report to the Government of Bechuanaland on the Bushman Survey*.

- Bechuanaland Government, Gaborone.
- 1981. *Hunter and Habitat in the Central Kalahari Desert*. Cambridge University Press, Cambridge.
- Sugawara, K. 1988. Visiting relations and social interactions between residential groups of the Central Kalahari San: Hunter-gatherer camp as a micro-territory. *African Study Monographs*, 8(4): 173–211.
- Tanaka, J. 1969. An ecology and social structure of Central Kalahari Bushmen: A preliminary report. *Kyoto University African Studies*, 3: 1–26.
- 1976. Subsistence ecology of Central Kalahari San. In (R. B. Lee & I. DeVore, eds.) *Kalahari Hunter-Gatherers: Studies of the !Kung San and Their Neighbors*, pp. 98–119, Harvard University Press, Cambridge.
- 1978a. *Sabaku no kariudo [Hunter in the Desert]* (in Japanese), Chuokoronsha, Tokyo.
- 1978b. *A San Vocabulary of the Central Kalahari: G//ana and G//wi Dialects*. Institute for the Study of Languages and Cultures of Asian and Africa (ILCAA), Tokyo.
- 1980. *The San, Hunter-Gatherers of the Kalahari: A Study in Ecological Anthropology*. University of Tokyo Press, Tokyo.
- 1987. The recent changes in the life and society of the Central Kalahari San. *African Study Monographs*, 7: 37–51.
- Tanaka, J., K. Sugawara, & M. Osaki n.d. *Report of the San (Masarwa) Investigation Carried out during 1982–83* (mimeo).
- Wily, L. 1979. *Official Policy Towards San (Bushmen) Hunter-Gatherers in Modern Botswana: 1966–1978*. National Institute of Development and Cultural Research, Working Paper No. 23, University College of Botswana, Gaborone.
- Woodburn, J. 1980. Hunters and gatherers today and reconstruction of the past. In (E. Gellner, ed.) *Soviet and Western Anthropology*, pp. 95–117, Duckworth, London.
- 1982. Egalitarian societies. *Man* (N.S.), 17: 431–451.

—Received February 14, 1990

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